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ABSTRACT

This paper presents information on several complex aspects of the prenatal drug exposure problem faced by educators and other professionals. The paper examines the incidence of substance-abusing pregnant women and outlines the dimensions of family problems presented by these women in terms of family history, service needs, medical concerns, and psychological characteristics. It discusses the physical and developmental effects in infants prenatally exposed to drugs. Multidisciplinary services are recommended to serve the medical, social, family, economic, educational, and psychological needs of the pregnant drug user. Common misconceptions concerning drug-exposed children's educational needs are dispelled, and a proactive stance in the "need cycle" of families affected by drug abuse is urged. Classroom-level protective and facilitative factors are listed, and recommendations are offered for future directions in serving drug-affected families. Five resources for further information are described. (16 references) (JDD)

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DRUG-EXPOSED INFANTS: OUTLOOK ON EDUCATION

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Broken Bonds

Maternal-infant bonding is undeniably one of the most crucial aspects of healthy child development. It is this bonding — a loving, secure relationship — that forms the foundation for a child's emotional, physical, and cognitive growth. Many think of bonding as something that evolves after a child is born, however most women (and many professions) would argue that emotional bonds are firmly established early in pregnancy.

The bond between the body of a woman and her developing fetus, however, is just as critical a factor for later mental and physical infant development. Unfortunately, it is this bond which many expectant mothers take for granted, or about which are minimally educated. It is also this "body bond" that approximately 11% of pregnant women ignore when they use nonprescribed "street drugs" or alcohol. An estimated 375,000 newborns may be damaged from prenatal drug exposure (Association for Retarded Citizens, 1988).

The following information bulletin is an outline of several complex aspects of the prenatal drug exposure problem faced by educators and other professionals as we attempt to identify and serve drug-damaged children.

A Family Portrait: Substance-Abusing Women

At a recent workshop on "cocaine babies," Dr. Ira Chasnoff, medical director of the National Association of Perinatal Addiction Research and Education, posed a reformulation of the prenatal drug use problem. Instead of focusing professional efforts and concerns on a particular drug and its effects on a developing fetus, it might be wisest to examine the problem from a broader perspective — one of poverty, ignorance, misconceptions, and/or unavailable resources (Chasnoff, 1990). In characterizing the drug-exposed infant and his/her family, these broader issues repeatedly surface, regardless of the substance being used or abused by a pregnant woman.

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The House of Representatives Select Committee on Children, Youth and Families in 1989 issued a report which echoed the "bigger picture":

* Fifteen out of eighteen hospitals across the nation surveyed reported 3 to 4 times as many drug-exposed births since 1985.

* Drug exposure increased the likelihood of prematurity and low birth weight, greatly increasing rates of infant mortality and childhood handicaps.

* Women seeking help during pregnancy can't get it. Two-thirds of hospitals reported no referral sites for drug treatment of pregnant women. Substance-abusing women are 4 times less likely to receive prenatal care.

* In Los Angeles and Washington D.C., hospitals are seeing new levels of maternal death during labor and delivery attributable to substance abuse.

* A growing number of "boarder" babies in hospitals is evident. Babies are being abandoned by parents or have parents who can't afford to care for them. There is an astounding lack of available foster care and extensive delays in protective services evaluations. Drug-exposed babies are much more expensive, having post-natal hospital stays often up to 13 days longer than healthy infants and costing nearly $1800 per day.

Trends among substance-abusing women show higher risks for medical complications such as abruptio placenta (premature tearing away of the placenta from the uterine wall with serious consequences for both mother and child)(Chasnoff, Burns, Schnoll, & Burns, 1985), unexplained hypertension, venereal diseases, and AIDS (National Association of State Directors of Special Education, 1989).

Even more frightening is the pattern of usage in substance-abusing women. **"Polydrug use"** (abusing more than one substance at a time) is the most common usage pattern. Since 1980, crack cocaine has become the drug of choice among substance-abusing pregnant women, ranging from 55% -90% of the prenatal substance abuse cases studied by hospitals, however alcohol consumption is a significant part of the polydrug pattern (House Select Committee on Children, Youth and Families, 1989).

Table 1 outlines the dimensions of family problems of substance-abusing pregnant women. While dysfunctional family relationships serve to contribute to and perpetuate substance abuse in an individual, other factors such as inadequate medical care and drained emotional reserves are just as likely to impact on the entire family structure (Bruner, 1990; House Select Committee, 1989; National Association of State Directors of Special Education, 1989).

Table 1. Dimensions of Family Problems for Substance-Abusing Pregnant Women

Family History & Demands	Medical Concerns	Psychological Dimensions
• have been victims of physical, sexual, and emotional abuse as children & adults • majority raised in homes where one or both parents were drug/alcohol users • likely to live with a drug using partner in a physically abusive situation • needs housing, food, job training and education • motherhood may be only socially acceptable role to fulfill feelings of low self-worth • lack social support and networks to seek treatment for chemical dependency • post-natal adjustment problems with a child demanding total commitment to physical, developmental, and emotional needs • confrontation by Child Protective Service's challenge to rights, custody, and parenting ability • need instruction and support in child care and good mothering	• have often been unsuccessful in receiving treatment for chemical dependency and for biological and psychological symptoms • little or no access to prenatal care • at increased risk for HIV infections secondary to IV drug use, prostitution, and exchange of sex for drugs • at increased risk for other sexually transmitted diseases including syphilis, hepatitis B, and herpes • an insensitivity to the special needs of women in treatment programs	• drug use as an unsuccessful coping style to deal with persistent exposure to violence including physical abuse and rape • increased prevalence of other psychological problems including low self-esteem and social isolation • use of drugs during pregnancy complicated by stress of contradictory motivations and impulses • compulsion to use drugs dominates over other health and welfare concerns

The "bigger picture" is indeed enormous. Dysfunctional family situations, few personal, financial, and social resources, undereducation, poor parenting skills, and high risks for medical complications face the pregnant substance-abusing woman.

While a family profile of the alcohol-consuming pregnant woman may share many similarities with the crack-using woman, startling facts about alcohol use raise an extra "red flag" of concern. The average age of alcohol use in the first-time drinker is 12.5 years. Between 10,000-11,000 ten- and eleven-year-olds report getting drunk at least once a week according to the National Council on Alcoholism. Finally, 1985 statistics revealed 239,000 pregnancies to girls between the ages of 14-18 — making estimates of alcohol-related problems in newborns of teenage moms reach 3,300! (Association for Retarded Citizens, 1988)

The nature of substance abuse by pregnant women is clearly a family affair. Poor housing, abusive spouses or other family members, teenage parenting, under-education in career and parenting skills, and inaccessible or unavailable medical care make family life unhealthy with little chance for improvement without outside intervention.

Common Effects of Drugs: Physical, Developmental, & Cognitive

Although crack cocaine appears to be the most commonly abused "street drug" by pregnant women, alcohol, nicotine, and caffeine are also among the risky drugs for prenatally exposed infants. Prenatal drug exposure can produce a range of observable effects in infants, from serious physical and internal deformities to subtle learning problems often unidentified until school age (Gold and Sherry, 1984; Streissguth, Martin, Barr and Sandman, 1984; Schneiderman, 1990). Many problems arising from prenatal drug exposure are common to several drugs, such as intrauterine growth retardation, while other effects might be quite drug-specific.

A classification of the most frequently observed effects of crack cocaine, alcohol, nicotine, and caffeine into physical and developmental domains is found in Table 2. The physical domain describes problems associated with physical structure, organ formation, or bodily functions — generally quantitative dimensions. Problems of a develop-

Table 2. Physical and Developmental Effects in Infants Prenatally Exposed to Drugs

Drug	Physical Effects	Developmental Effects
Crack Cocaine (Chasnoff, 1985; House Select Committee, 1989; Schneiderman, 1990)	<u>Prenatal</u> • fetal distress as indicated by fetal monitor • prenatal growth deficiency • spontaneous abortion • fetal anoxia (oxygen deprivation) • prematurity • prenatal strokes and cerebral accidents <u>Postnatal</u> • low birth weight • smaller head circumference at birth • muscle tremors • increased muscle tone (stiffness, rigidity) • finger deformities (missing parts of or both middle two fingers) • urinary tract deformities • much higher than average rate of Sudden Infant Death Syndrome	<u>Infants</u> • irritability • difficult to comfort, inconsolable crying • frequent startling response • sleep disturbances • poor body state control • low environmental stress tolerance • poor feeding patterns (vomiting, suck-swallow problems) • uncoordinated movements <u>Toddlers</u> • irritable and show poor impulse control • less goal-directed behavior • less attachment to caregiver • distractible • easily frustrated • expressive language difficulties • self-regulation deficits • demonstrate less free play • learning problems

Drug	Physical Effects	Developmental Effects
Alcohol (Association for Retarded Citizens, 1988; Gold & Sherry, 1984; Holzman, 1982; Streissguth, et al., 1984)	• prenatal and postnatal growth deficiencies (may never catch up in size) • small head circumference • brain lesions • narrow eye slits • flattened facial and nose features • loss of groove between nose and upper lip • alcohol withdrawal at birth • muscle coordination problems • bone and joint problems • genital, heart, and kidney defects	• mental retardation • poor sucking response • sleep disturbances • restlessness, irritability • delays in reaching developmental milestones, i.e. rolling over, sitting up, walking • short attention span and increased incidence of Attention Deficit Disorder • learning disabilities
Nicotine (Streissguth, et al., 1984)	• lower birthweight with increasing nicotine consumption	• poorer orientation and attention • increased incidence of hyperkinesis in school age children
Caffeine (Jacobson & Dowler, 1984)	• lower birthweight with increasing caffeine consumption (heavy use is equivalent of 4-6 cups of coffee/day)	• increased prenatal and postnatal irritability with increased caffeine consumption • poorer attention skills, even as child reaches preschool age • no predictors of long-term developmental delays clear as yet

mental nature are generally qualitative, and include changes in cognitive, motor, and social dimensions. These effects may occur both prenatally and postnatally in an infant, however unless a mother admits to drug usage, attending physicians may be unaware of the origin of fetus/infant problems.

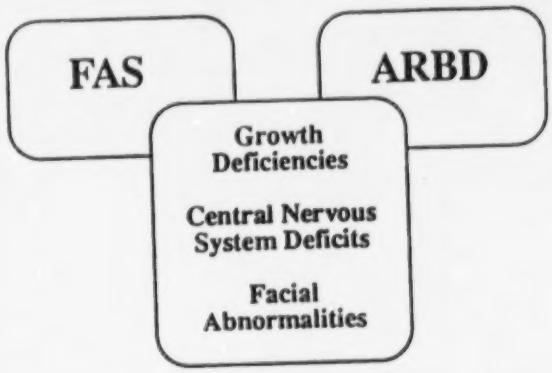
The legality and social acceptance of each of these drugs is quite different, however their similar outcomes in fetal and infant well-being cannot be ignored. Some may view the effect of "low birthweight" (common to all four described drugs) as inconsequential, however low birthweight places an infant at significant risk for health problems and intellectual deficits.

When a drug is taken during a pregnancy also impacts on fetal and infant health. In the case of cocaine consumption, the first trimester of pregnancy may be most critical. Chasnoff (1990) indicated that even limited use of cocaine during the first trimester of

pregnancy (even with discontinued use later in pregnancy) shows a poorer prognosis for intrauterine growth than cocaine consumption in the second or third trimesters. In the case of alcohol consumption, the first trimester is equally important to later fetal and infant development. First trimester alcohol use is linked to abnormal physical features and stunted brain (neuronal) growth (Association for Retarded Citizens, 1988; Schneiderman, 1990). Although there are critical periods during a pregnancy in which certain body parts or organs are most susceptible to damage, what many fail to realize is that the brain develops at its fastest rate during the 9 month gestational period — making it sensitive to outside factors throughout an entire pregnancy.

There can be no doubt that the amount of a drug taken, the duration of its use, and timing of use during a pregnancy dictates the extent of damage experienced by a fetus or infant. In the case of prenatal alcohol use, much more is known about usage pattern and symptom appearance than with other drugs. This may be due to two factors: a) its use is legal — no arrest or investigation follows after reported use; b) although most obstetricians advise against any alcohol consumption, there is no safe minimal level of use determined, so many women may feel "OK" to imbibe occasionally.

Symptom appearance in infants prenatally exposed to alcohol generally takes two forms, Fetal Alcohol Syndrome (FAS), the most severe form, and less than full-blown cases called Alcohol-Related Birth Defects (ARBD). Together, FAS and ARBD form the largest class of birth defects that are totally preventable, affecting 1/750 and 12/1,000 children, respectively per year (Association for Retarded Citizens, 1988). At least 30% of the infants born to alcoholic mothers display the most severe forms of FAS, with another 40%-45%



showing some physical and developmental deficits synonymous with ARBD (Holzman, 1982). Features of both disorders are shown in the figure above, with primary differences being in degree only — often dependent upon how much and how long a pregnant woman has been drinking.

Alcohol rapidly passes to a fetus through the placenta and reaches fetal blood concentrations at least as high as maternal blood alcohol levels. In fact, animal studies have provided evidence that fetal blood alcohol levels may exceed those of the mother. The equivalent of two alcoholic drinks by a pregnant woman may mean that a developing fetus is "drinking" more than mom. Also a concern is the amount of time it takes for alcohol to be metabolized by the body. A fetus will need twice as long as the pregnant woman to eliminate alcohol from the bloodstream (Gold & Sherry, 1984). The potential damage to a developing fetus, therefore, arises from two interacting factors: blood alcohol concentrations similar to (if not greater than) those of the mother and longer alcohol exposure time.

Multidisciplinary Services for Multiple Needs

The nature of drug abuse by pregnant women is not confined within the boundaries of any

singular problem. Rather, the "nature of the beast" is founded in a maze of medical, social, family, economic, educational, and psychological dilemmas. Treating any of these in isolation will afford temporary relief at best. The perspectives that follow are from professionals of varying disciplines who provide models for meeting the multiple needs of the pregnant drug user.

To prepare for what he calls a "tidal wave" of human disaster resulting from prenatal drug exposure, Jeptha Greer, Executive Director of the Council for Exceptional Children, has suggested the following:

* Massive coordination efforts will be needed to integrate agencies which provide policy and legislative leadership at local, state, and national levels.

* Begin a data base on already-identified children to serve as a foundation for programming and personnel training . . . and share information once it is gathered.

* Involve every special education degree-granting institution in establishing academic leadership to train teachers in managing what may well be a new category of disability.

* Rethink the meaning of a "free, appropriate education" and its impact on referral, assessment, IEP development, and programming.

* Reintensify "child find" activities so drug-affected children and families don't slip through safety net holes.

* Overcome resistance to curriculum additions or other excuse-making which could jeopardize current advances made by special education initiatives (Greer, 1990).

Specific efforts have been suggested by the House Select Committee on Children, Youth and Families (1989) which target three populations: women in their child-bearing years, pregnant women who abuse drugs, and infants of drug-abusing mothers.

Women of Child-bearing Age	Pregnant Drug Abusers	Drug-Exposed Infants/Children
• early identification and referral to treatment • available, accessible drug treatment • drug abuse prevention / education outreach programs	• early identification and referral to treatment • available, accessible drug treatment • available, accessible prenatal care • after birth, training to meet special needs of infant • social support services to prevent child abuse / neglect • continued drug treatment and follow-up support	• better prenatal health care • available, accessible health care after birth • special services to meet long-term needs (e.g. special education) • foster care and adoption

A model for assisting identified drug-exposed children and their families has been implemented by Napa County, California educators for approximately 6 years (Lewis, Bennett, & Schmeder, 1989). The Napa Infant Program (NIP) serves developmentally at risk and handicapped children between the ages of 0 - 3 years, many having been prenatally exposed to drugs. The NIP program maintains its multidisciplinary approach by providing:

1) transdisciplinary assessment of infants/children,

2) home visiting services,

3) individualized instruction,

4) consultation in physical, cognitive, motor, and social-emotional child development provided to parents and professionals, and

5) parenting skills education for adult caregivers.

Adult caregiver education is considered crucial by NIP in lessening developmental delays in an infant prenatally exposed to drugs. NIP provides parenting classes for optimal infant/caregiver bonding. Skills taught to parents may include: a) dealing with their own feelings (often in response to infant rejection or disengagement); b) physical adaptations for better feeding, sleeping, and muscle coordination; c) recognizing stress cues and "destressing" an infant; and d) recognizing and taking action to remedy atypical behavior patterns.

Parental support systems, medical problems (e.i. AIDS or other sexually transmitted diseases), drug use or addiction, and literacy level must be considered in the development of instructional materials and teaching techniques.

Educational Needs and Considerations: Proaction, not Reaction

It is certainly easy to be ensnared in the sensationalist trap set by the media with respect to the "deluge of permanently, seriously impaired children" that schools and social service systems will be facing in the near future as a result of prenatal substance abuse. "Crack babies" and "coke babies" seem to be on the lips of every educator, striking fear into hearts of school board members, principals and teachers alike — "How will we ever be able to serve such large numbers of children with multiple deficits? We'll need a whole new category of special ed for these kids!" There are a number of outright fallacies and misconceptions held by the professional community, which when addressed may alter such a reactionary stance.

First, although the number of prenatally drug-exposed children appears to be large, actual numbers may indeed be much larger. **Identification of substance-abusing pregnant women, and therefore drug-exposed children is highly unreliable.** Due to the possibility of legal action being taken against a mother, not to mention the potential loss of parental rights, far fewer cases of drug-exposed children are actually identified. Schools will need to extend their identification and advocacy efforts for drug-exposed children beyond the educational system and into the community.

In addition, to think that cases of prenatal drug exposure are just surfacing in the 90s, posing new and real problems, is absurd. The cocaine problem has never been so prominent and threatening as it is today, but it must be kept in mind that cocaine and crack are not the only drugs posing prenatal threats. Other drugs such as alcohol, heroin, marijuana, amphetamines, LSD, and barbitu-

rates have not disappeared—especially when one remembers that a substance abusing woman is most likely to be a polydrug user—and have had serious effects on children over a time span exceeding the last five years. The identification and attribution of those effects to drugs has eluded professionals, but those children have been served for years in our school systems without the label "drug-exposed."

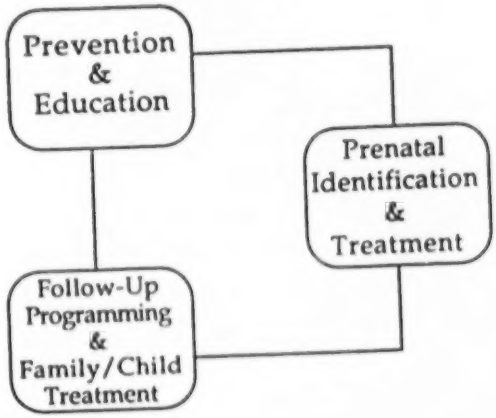
Second, the notion of "severe and multiple deficits" being typical of all drug-exposed children is not supported in the literature. The range and severity of problems resulting from drug exposure is enormous, even when specific drug usage has been identified. (Refer back to Table 2 for an idea of drug-specific effects.) With identified crack use by a pregnant mom, drug-affected infants may exhibit anywhere from temporary irritability and tremulousness (often disappearing after 12 weeks) to severe, possibly permanent developmental delays and physical abnormalities. Alcohol is equally notorious for producing a wide variety of deficits in infants prenatally exposed, with such symptoms surfacing in an unpredictable fashion. School programs for drug-exposed children will have to respond flexibly. To quote the National Association of State Directors of Special Education (1989), "the needs of these children and their families are fluid" (p. 6).

Third, there is a misconception that educational programs for drug-exposed children are necessarily different than the current cascade of service options. Existing educational programs for children and infants identified as prenatally drug-exposed, primarily multidisciplinary early intervention systems, largely focus on family-centered, individualized instruction and transition into regular education settings by kindergarten age (Lewis, Bennett, & Schmeder, 1989; Los Angeles Unified School District, 1989). In many ways, the operation of early intervention programming is identical to existing models for any child with suspected or identified special needs (e.g. handicapped, underprivileged, and other "at risk" educational categories). A distinguishing characteristic of these educational programs, however, is that participating children have been identified as being drug-exposed, therefore permitting possible prevention of developmental, behavioral, psychosocial and learning through early intervention. Identification of children as drug-exposed appears to be a significant problem impeding health and educational service provision.

What Can Educational Systems Do?

Rather than reacting to unrealistic fears, educators are well-positioned to take a proactive stance in the "need-cycle" of families affected by drug abuse. A model of this cycle is presented below. Educational systems have already filled portions of the need cycle, such as providing drug education and prevention programming. However, until all components of the cycle are addressed, and efforts are made to coordinate a continuum of educational programs throughout the need cycle, our educational successes will be limited.

Need Cycle



Rist (1990) makes proactive suggestions for school board consideration:

* Develop early identification systems. Form alliances with local hospitals, health departments, and child-protective service agencies to provide early warning of children and families needing intervention.

* Lobby for funds to serve the need. As a school board compiles reliable information from its local alliances, and since providing early intervention services to an increasingly larger body of identified drug-exposed children is expensive, it will be important to make state and local legislators aware of funding needs.

* Get your district's administrators and schools involved. Drug education programs which focus on the incompatibility of drugs and pregnancy (over one million teenagers become pregnant each year!) are imperative.

* Begin thinking about appropriate classroom environments for drug-exposed children. Variability in effects from prenatal drug exposure will necessitate a flexible school environment. Perhaps the best approach is to "look at the ways schools are stressful, demanding, and unpredictable, and find ways to make them less stressful, less demanding, and more predictable" (p. 21).

The prognosis for children prenatally exposed to drugs can be improved when environmental factors are predictable, secure and stable. Specific to school-level actions, the PED's Program (Prenatally Exposed to Drugs) of the Los Angeles Unified School District (1989) builds early intervention programming around two components, **protective** and **facilitative** factors. Protective factors are those which define structure, expectations and boundaries. Facilitative factors provide ongoing nurturing, support, and understanding to establish strong adult-child attachments. The table below outlines the PED's Program features which are built into classroom level interventions.

Classroom Level Protective and Facilitative Factors

Protective	Facilitative
Respect for children's work/play space	Forming trusting attachments with adults
Routines and rituals that are predictable and consistent	Teacher sensitivity to child feelings and stressors
Observation and assessment of how the child uses peers/adults to meet needs and solve problems	Mutual discussion of feelings and experiences in an accepting environment
Flexible room environment — being prepared to meet the immediate demands of the situation by restructuring the physical environment	Explicit classroom rules
Transition time plans	Teachers as role models
High adult : child ratio	Building peer sensitivity
Curriculum which focuses on "learning by doing"	Focus on child-initiated decision-making
Structured, adult-facilitated play activities	Facilitating parent/caregiver goals
	Coordination of transdisciplinary programming

Future Directions

In searching for workable solutions for serving drug-affected families and drug-exposed children, several recommendations can be made. First, there is a **demand for comprehensive models of service delivery** which take action throughout the "need cycle" of drug-affected families — from prevention and education, to prenatal identification and treatment, and finally follow-up programming and treatment for both the family and drug-exposed child.

Second, **follow-up education and programming** for families and drug-exposed children **founded in early intervention and individually tailored instructional practices** is essential. Although many may perceive drug-exposed children as a new and separate category of special needs, the characteristics of such children vary widely, making the desire to create a new category of exceptionality presumptuous. Programs reporting success are those which place less value on the label "drug-exposed" and more emphasis on individual child and family characteristics.

Third, a **call for crossdisciplinary training and cooperation between professionals** in model development and implementation is crucial. Due to the complexity of problems faced by pregnant drug users, professionals must be willing to set aside elitism, and concentrate on comprehensive program development based on interagency and interprofessional understanding. Educators, social service providers, medical professionals, and others often operate in a closed-system mentality, where there is little room for the expertise of others. The sad ending to this tale is that fragmented service delivery to those in need, as well as duplication of professional efforts and programmatic "recreated wheels," often result. Professional training from a crossdisciplinary perspective can provide a uniform information base, something that does not exist under current single-discipline approaches.

Fourth, the **establishment of an appropriate legal response to the crisis of drug use during pregnancy is needed.** Efforts to administer punitive sanctions to pregnant drug users would ensure greater resistance in seeking treatment by those women, and guarantee that fewer drug-exposed babies could be identified and helped. It is suggested that the "sole appropriate legal response to the crisis of drug use during pregnancy is to establish universal access of pregnant women to health care" (McNulty, 1989). The issues of mandatory reporting (in cases of abuse/neglect) and confidentiality of the client/professional relationship are in conflict for many professionals working with drug-exposed children and pregnant drug users, and until legal policy is established to allow for treatment rather than punitive sanctions, comprehensive program efforts throughout all stages of the "need cycle" are jeopardized.

And finally, the **development of programs at all stages of the "need cycle" which foster keeping families intact.** Exceptionally few programs for drug treatment allow entry by pregnant women or allow women to keep their children during treatment, further decreasing the likelihood of accessing care. After birth, women are further discouraged to seek assistance for themselves or their drug-exposed children for fear of being legally punished. The early intervention education and parenting programs currently in existence for serving drug-affected families could be serving many more families, thus providing further impetus for long-term follow-up and family treatment.

Resources

Association for Retarded Citizens
2501 Avenue J
P.O. Box 6109
Arlington, TX 76006
This association provides many useful brochures and classroom materials on topics related to the prevention of retardation, particularly alcohol education information.

Child and Family Policy Center
Charles Bruner, Director
100 Court Avenue, Suite 312
Des Moines, IA 50309
The booklet, "Improving Maternal and Child Health: A Legislator's Guide," is an outline of information and options many states have explored in improving maternal and child health services.

Los Angeles Unified School District
Division of Special Education
PED Program 75th Street School
142 W. 75th Street
Los Angeles, CA 90003
The booklet, "Today's Challenge: Teaching Strategies for Working with Young Children Pre-Natally Exposed to Drugs/Alcohol," is a valuable tool for school-level interventions. Program philosophy and components, and teaching strategies for learning, play, social/emotional development, communication, motor, and home-school partnerships are provided.

National Association for Perinatal Addiction Research and Education
11 E. Hubbard Street, Suite 200
Chicago, IL 60611
(312) 329-9131
This organization provides professional training as well as videotapes, booklets, and research findings on drug-exposed infants. Much material is available at low cost or on-loan.

Ronald Reagan Resource Center for the Prevention of Birth Defects
Meyer Rehabilitation Institute
University of Nebraska Medical Center
600 South 42nd Street
Omaha, NE 68198-5450
This organization offers resources regarding alcohol and drug-related birth defects, including videotapes, brochures and information on curriculum, referrals, pregnancy and other drugs. Speakers are available for presentations.

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